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None

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G4M

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(54) Processing apparatus for the automatic compilation of reduced systems for gambling forecasts

(57) Apparatus for the automatic compilation of reduced systems for football pools receives information about the methodology of reduction from cards.

The processor operates on a base of pre-recorded programs preferably stored on a solid state storage support, which is advantageously replaceable for using a plurality of programs.

The processor accepts a base system prepared by the gambler with a certain number of variants (two or three result forecast for one or more games) and produces cards on which there are markings relating to the reduced system.

The processor also performs the automatic selection of a validated card group in comparison with a winning column of games.

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The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.

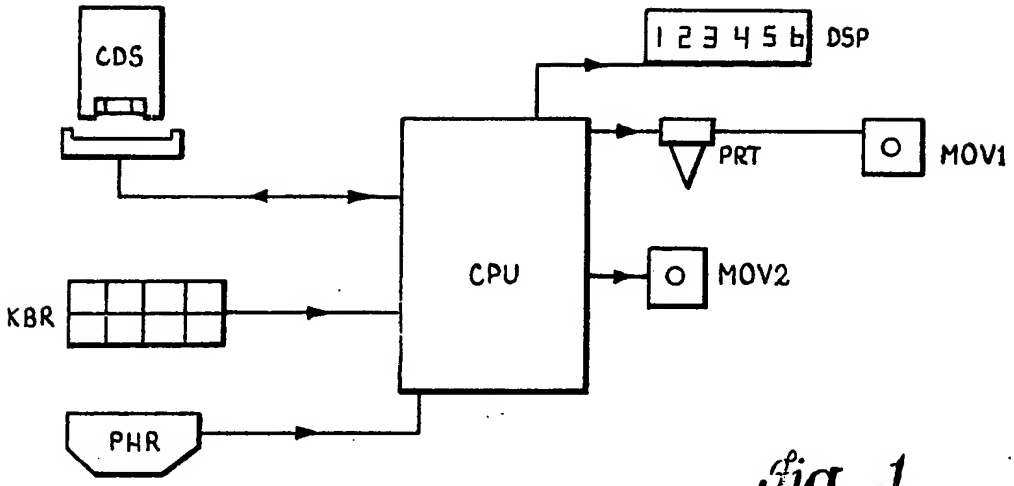

Fig. 1

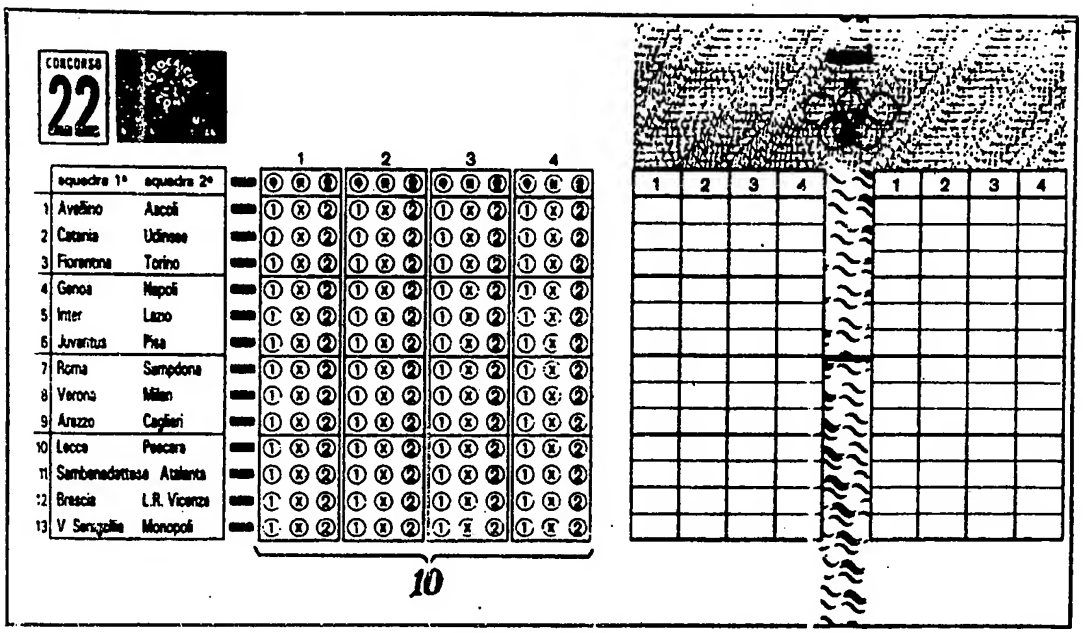
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Fig. 2

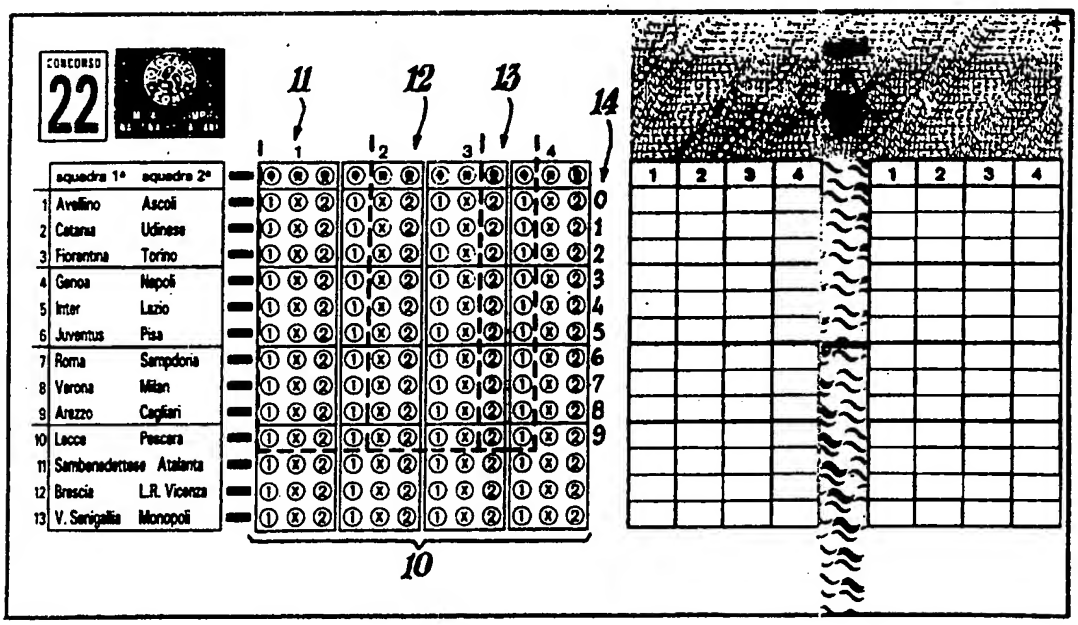
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Fig. 3

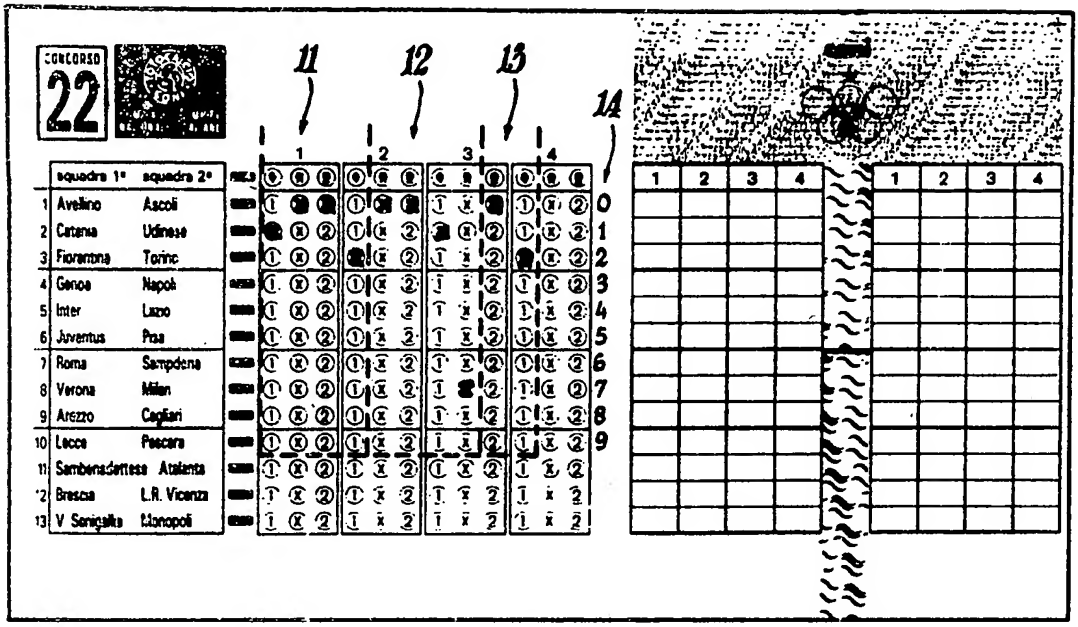
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Fig. 4

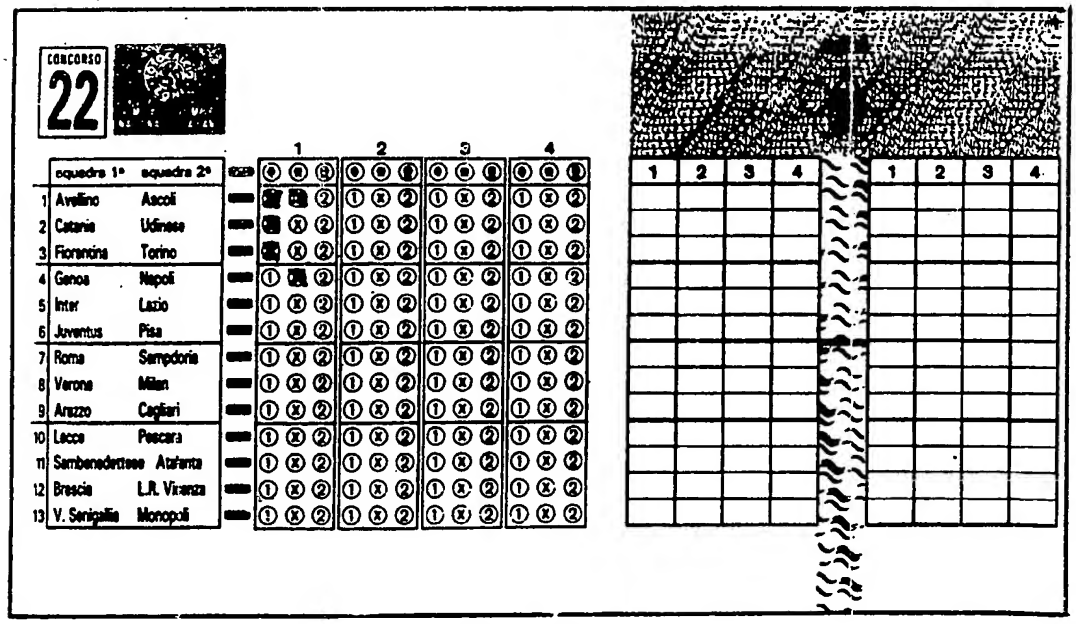
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Fig. 5

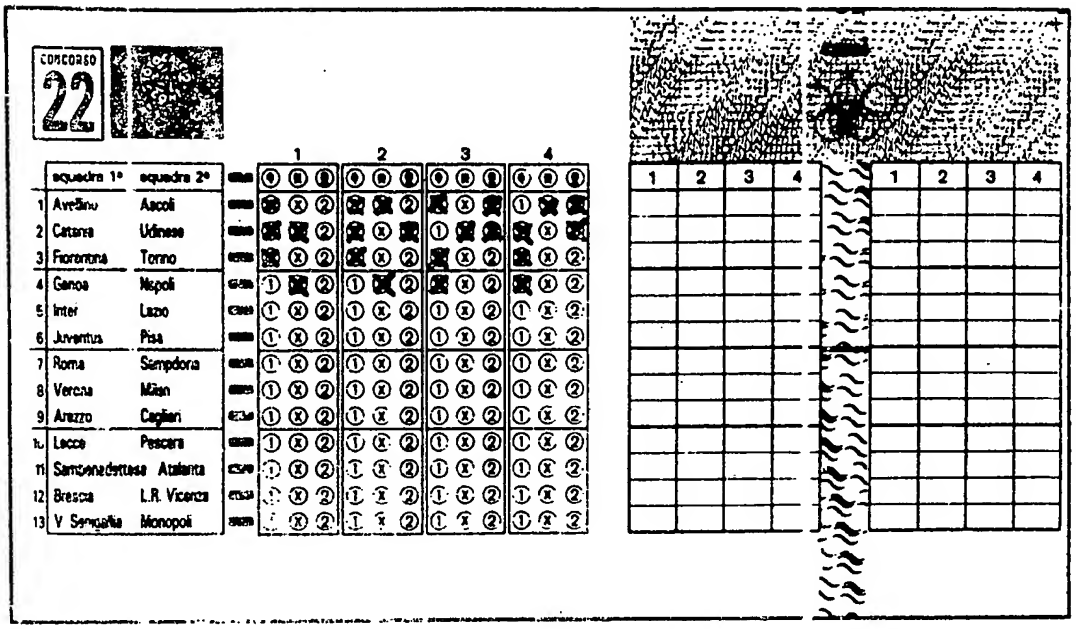
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Fig. 6

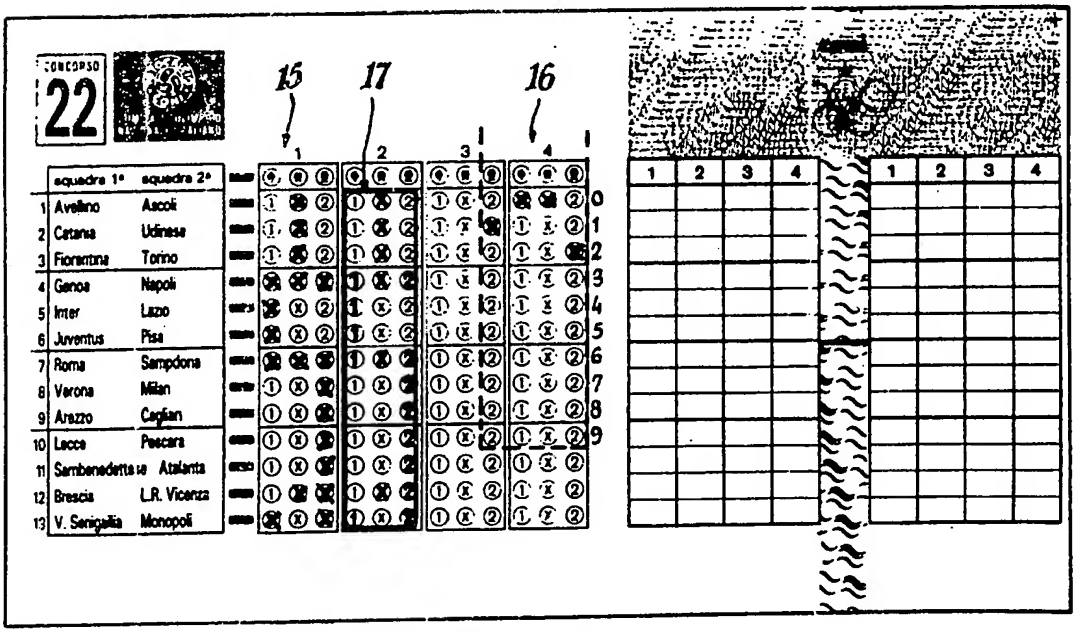
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Fig. 7

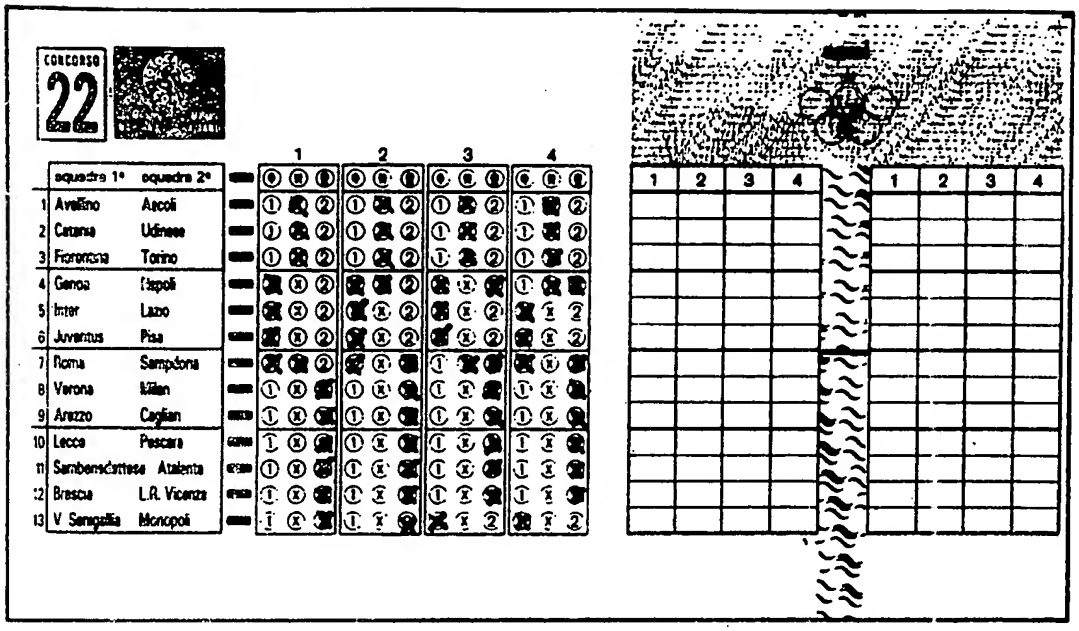
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Fig. 8

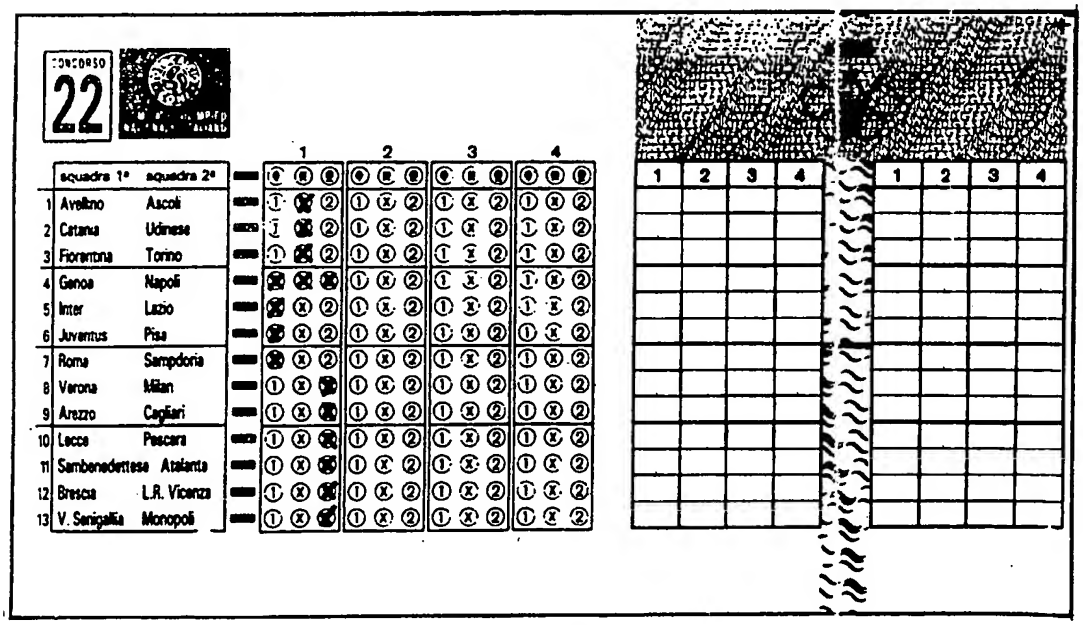
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Fig. 9

SPECIFICATION

A processing apparatus for the automatic compilation of reduced systems for gambing forecasts

The present invention relates to an apparatus for the automatic compilation of reduced systems for gambling forecasts. More particularly the invention relates to apparatus of the above kind, adapted for the compilation of reduced systems on cards for football totalizator games on automatic validation machines, the cards being characterized by a particular graphic structure as disclosed in a utility model application of the same applicant.

It would be advisable to clarify the meaning of "reduced system".

It is well known that gambling forecasts may be performed by the integral system (full permutations). Assuming that the variability of an event (e.g. a football match) expressed by the indicia "1", "X" and "2", each of these indicia having an exact import, a forecast may be executed by the punter as a "double", that is "1X", "12", "X2" or as a "triple", that is "1X2".

In the integral system, assuming a complete gambling on thirteen matches, the number of forecasts required depends on the number of "doubles" and "triples".

For example, a system including twelve "singles" and one "triple" requires three forecast columns; a system including eleven singles and two "triples" requires nine forecast columns, and so on.

Thus, the integral system requires a number of columns strictly dependent, in terms of pure combinatory calculus, upon the number of selected multiples (doubles and/or triples):

Those who are studious of gambling forecasts, based not on purely chance phenomena such as drawing of a lottery, but on sporting activities, such as football matches, have confirmed that the maximal probabilities of winning are decorelated with respect to pure casuality.

The statistics demonstrate that in the football matches of the last 30 years, the frequency of the results marked with the symbols "1", "X", "2" was about 40%, 40%, 20%, respectively.

Following this philosophy the conception of "reduced system" has been introduced, that is a system having a number of columns much smaller than that required for an integral system of a full permutation. The concept of the "reduced system" leads to the introduction of the concept of "reductor".

This term means a non-mathematical development of the combination of symbols.

It is advisable to clarify this conception by an example.

Reduced system	*Reductor*
1X2	11X2X
1X2	1X2X1
1X2	X1X12
1X2	2X1X1
1X2	X211X

From this example it results that the reductor gives 5 columns instead of 3^5 columns as needed for a full permutation, with a distribution of the sequences 1X2 dependent upon statistics as set out above.

It is obvious that a plurality of reductors can be determined in dependence upon the statistics used.

It will be now disclosed how in practice a reductor is utilized. With reference to the previous example, a gambling forecast for 13 games will be considered.

Base system to be reduced	*Reduced system*
X	XXXXX
1	11111
2	22222
1X2	11X2X
X	XXXXX
2	22222
1	11111
1X2	1X2X1
1X2	X1X12
1X2	2X1X1
X	XXXXX
1X2	X211X
2	22222

It will be noted that the development of the triples corresponds to the reductor philosophy as above disclosed.

An object of the present invention is to provide an automatic processing apparatus for the compilation of reduced systems, comprising means for personalizing the processor by recording a reductor on a read only

memory, preferably arranged as a removable unit, means for the compilation of the reduced system starting from a base system introduced into the apparatus and utilizing a reductor selected among the reductors contained in the read only memory, and eventually means for the automatic selection of the development of a base forecast, to which a certain reductor has been applied, in comparison with a winning column result introduced into the apparatus.

The processor can include a reading unit of optical kind arranged for reading out a marked zone of a totalizer football game card, a printing unit arranged for writing information or countersigns on the marked zone of said card, a non volatile great capacity memory for memorizing the above mentioned reductors, a unit for displaying the information and a keyboard for controlling the operation of the apparatus.

The present invention will now be disclosed with reference to a preferred embodiment shown in the drawings in which:-

Figure 1 shows the general organization of a processor for the automatic compilation of reduced systems for gambling forecasts according to the present invention;

Figure 2 shows a typical card for totalizer gambling forecasts, as used in automatic validation machines; and

Figures 3 to *9* illustrate use of a card as shown in Figure 2 in the processor according to the present invention.

Referring now to Figure 1, the processor according to the present invention includes a central processing unit C P U comprising as usual a microprocessor RAM, ROM and respective periferica.

A detailed disclosure of said unit is not believed to be necessary as it has a conventional structure well known to one skilled in the art.

The unit CPU is operatively connected to a marking reader PHR arranged for reading out the marking zone of a conventional card for gambling forecasts in an automatic validation machine.

The reader PHR is a 12 channel reader with 12 marking channels and a strobe channel (Figure 2).

The unit CPU is connected with a keyboard KBR of a reduced kind and with a 16 figure display DSP.

The unit CPU is adapted to control a printing head PRT and horizontal and vertical tabulation motors MOV1 and MOV2 for printing symbols and messages on the marking zone of the card, as will be clarified hereafter.

The unit CPU is operatively associated with a non-volatile memory contained in a removable capsule CDS.

The unit CPU can write data into the memory CDS and read out data therefrom in dependence on the particular operative condition (recording of new reduction data or reading out of previously recorded reduction data).

The operation of the processor according to the present invention will now be described.

The processor is enabled to perform the following functions:

A - Personalization by recording reduced systems on the memory capsule CDS.

B - Compilation of a selected reduced system to be applied to a base system as drafted by the utilizer.

C - Automatic checking of a reduced system, obtained from a base system and a reductor, in comparison with a winning column.

Reference will be made now to Figure 2, which shows, as already said, a typical gambling forecast card used in automatic validation machines.

This card has already been disclosed in a previous utility model application of the same applicant. Here it will only be recalled that it has a marking zone, generally indicated with the reference numeral 10, formed by a matrix having 13 lines and 12 columns. The markings for selecting "1", "2", "X" and their combinations are made by marking, for example with a crosslet, the symbol or symbols to be selected and communicated to the automatic validation machine.

In the processor according to the present invention, the marking zone 10 is utilized for communicating processing data for the selection and compilation of a particular reduced system.

In Figure 3 there is shown a manner of using a card of the above type for communicating information to the processor according to the invention. The making zone 10 is considered as including three sub-zones: 11, 12, 13. Considering now the first 10 lines of the matrix contained in the zone 10 having progressive Figures 0 to 9, as shown by 14, it will be possible to introduce into the subzones 11, 12, 13 three numerals having respectively 4,4 and 2 figures.

In Figure 4, similar to Figure 3 there is shown an example of the introduction of the figures "1002" into the zone 11, "0017" into the zone 12 and "02" into the zone 13. If the zones 11, 12 and 13 are identified respectively with "number of the reduced system", "number of columns" and "number of cards", the numbers entered indicate the reduced system "1002" consisting of 17 columns on two cards.

In Figures 5 and 6 there is shown an example of reductor relating to two triples and two doubles, in accordance with the reduction philosophy previously discussed. After the acquisition by the processor according to the invention of the communication cards shown in Figures 4, 5 and 6, the processor will write on the lower edge of the cards the writing reproduced in Figures 4, 5 and 6. It should be clear that this terminology is purely by way of example.

In Figure 7 there is shown a card with which a reduced system has been developed.

Having forecast the single fixed game results and consulted the list of available reductors (for example, as previously mentioned, the system "1002" comprising 2 triples, 2 doubles, 17 columns on 2 cards), the punter completes a card as shown in Figure 7 to communicate to the processor that the punter will utilize the system "1002". It may be noted that the manual marking zone 15 indicates the selected integral system, and the

manual marking zone 16 indentifies the selected reductor, in this case "1002", which, as already said, relates to two triples, two doubles, 17 columns on two cards.

After introduction into the processor of a card compiled as shown in Figure 7, the processor processes the information and thereafter prints, as confirmation, the system in zone 17 so that the punter will be able to check the correct interpretation by the processor of the manual markings made on the zones 15 and 16. Advantageously, the processor will print also a confirmation as shown on the lower marginal portion of the card.

The processor is, at this point, ready for the actual compilation of the reduced system by printing two cards as shown in Figures 8 and 9. The cards may then be introduced in a conventional automatic validation machine for the gambling forecasts.

The processor according to the present invention can easily be adapted for carrying out checking of compiled cards against a winning column which will be communicated to the processor by using a card of the previously mentioned type. The winning column card will be read out by the processor and checked against forecast cards as for example those shown in Figures 8 and 9, and in the case of coincidence with a winning column, a signalling device will be operated.

To one skilled in the art it will be clear that several modifications may be made to the working method as hereabove disclosed.

The above should be considered as a technical base teaching for a possible firmware for the structure of the processor as shown in Figure 1.

An important characteristic of the processor of this invention is that all the data input operations may be performed by a paper support consisting of the cards used for the automatic validation machines. Moreover, the operations of the machine may be pre-established on a table without any need of the processor at the preparation step.

CLAIMS

1. A processor apparatus for the automatic compilation of reduced systems for gambling forecasts, characterized in that it comprises means for personalizing the processor by recording of reductors on a read only memory, preferably arranged in a removable unit; and means for compiling reduced systems starting from a base system communicated to the processor by applying a reductor selected among the reductors contained in said read only memory.

2. A processor apparatus as claimed in claim 1, characterized in that said personalizing means of the processor comprise an optical reader of cards, arranged for reading marking zones of gambling forecast cards as used in known automatic validation machines, a printing unit adapted to print information and countersigns on said cards and a non-volatile great capacity memory for storing said reductors.

3. A processor apparatus as claimed in claim 2, characterized in that it comprises conventional printing means for printing marking countersigns on the marking zone of said cards for their acceptance and validation by automatic validation machines.

4. A processor apparatus as claimed in claim 1, characterized in that it comprises means for performing the checking of a system in comparison with results of a winning column introduced into the processor.

5. A processor apparatus for the automatic compilation of reduced systems substantially as hereinbefore described with reference to the drawings.

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